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| EXAMINER | |
|---|---|
| JACKSON, JAKIEDA R | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/936,703 | KIM ET AL. | |
| | Examiner | Art Unit | |
| | Jakieda R. Jackson | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. In response to the Office Action mailed September 20, 200, applicant submitted an amendment filed on May 10, 2007, in which the applicant traversed and requested reconsideration with respect to **claim 1**.

### *Response to Arguments*

2. Applicant argues that Beckert does not disclose or suggest "a radio frequency transmitter for modulating a coded analog audio signal from an audio codec into a radio frequency signal and remotely transmitting the modulated radio frequency signal through a transmitting antenna" and "a radio frequency transmission key for tuning on the operation of the radio frequency transmitter". Applicant arguments are persuasive, but are moot in view of new grounds of rejection.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 4-6 and 8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beckert et al. (U.S. Patent No. 5,794,164), hereinafter referenced as Beckert in view Maeda (USPN 5,826,199).

Regarding **claim 1**, Beckert discloses a portable data storage and audio reproduction apparatus comprising:

a power supply (figure 3, element 66) for supplying electric power to said reproduction apparatus (column 6, lines 1-9 with column 11, lines 21-39);

a key input unit (figure 3, element 52) for inputting a plurality of key signals to operate various functions of said reproduction apparatus (column 5, lines 11-14);

a flash memory (figure 3, element 106) having a desired storage capacity for storing the audio data and various information data (column 8, lines 57-61);

a microphone (figure 3, element 88) for convening external input voice or sound into an electrical signal (column 7, lines 7-9);

an FM radio receiver (figure 3, element 84) for receiving a desired band of FM radio signals through a receiving antenna (column 5, lines 59-65);

a central processing unit (figure 3, element 100) for controlling the operations of said key input unit (figure 3, element 52), and flash memory (figure 3, element 106) and performing an arithmetic operation for output data therefrom according to programs contained therein to generate a plurality of control signals (column 2, lines 21-29 with column 2, line 64 – column 3, line 4);

a liquid crystal display (figure 3, element 54) for providing a visual indication of output data from said central processing unit (column 7, lines 45-48);

a digital signal processor (figure 3, element 80) for processing input/output digital signals to/from said central processing unit (column 7, lines 44-46),

an audio codec (figure 3, element 86) for coding a digital audio signal from said digital signal processor into an analog audio signal (figure 3, element 80);

an audio input/output unit (figure 3, element 56) receiving an external analog audio signal, transferring it to said audio codec, receiving the analog audio signal from said audio codec and outputting it externally (column 6, line 63 – column 7, line 3), wherein said audio codec transfers the coded analog audio signal to said audio input/output unit, decodes an analog audio signal from said audio input/output unit into a digital audio signal and transfers the decoded digital audio signal to said digital signal processor (column 6, line 65 – column 7, line 11);

a radio frequency transmitter (figure 3, element 85) for modulating the coded analog audio signal from said audio codec into a radio frequency signal and remotely transmitting the modulated radio frequency signal through a transmitting antenna (column 7, lines 60-66); and

an equalizer (figure 3, elements 62, 78 and 212) for compensating for a distortion of output audio data from said reproduction apparatus (column 6, lines 19-29), but does not specifically teach an apparatus wherein said key input includes a radio frequency transmission key for turning on the operation of said radio frequency transmitter.

Maeda discloses a portable device wherein a radio frequency transmitter for modulating the coded analog audio signal from said audio codec into a radio frequency (radio frequency) signal and remotely transmitting the modulated radio frequency signal through a transmitting antenna (antenna), wherein said key input includes a radio frequency transmission key for turning on the operation of said radio frequency transmitter (radio frequency; column 6, lines 20-64), to provide a digital portable device which contains a DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beckert's apparatus wherein said key input includes a radio frequency transmission key for turning on the operation of said radio frequency transmitter, as taught by Maeda, to provide a digital portable device which contains a DSP for implementing a voice codec function.

Regarding **claim 4**, Beckert discloses a portable data storage and audio reproduction apparatus further comprising an audio system for receiving said radio frequency signal from said radio frequency transmitter by wireless (portable RF device; column 8; lines 19-32) through a receiving antenna (antenna unit), demodulating it into the original audio signal (demodulator; figure 5, element 324) and outputting the demodulated audio signal externally through said speaker (speaker; column 8, lines 19-32 with column 7, lines 60-66).

Regarding **claim 5**, Beckert discloses a portable data storage and audio reproduction apparatus further comprising:

a first interface (figure 4, element 204/206) connected between said audio input/output unit and audio system for data interfacing therebetween (column 6, lines 9-14).

Regarding **claim 6**, Beckert discloses a portable storage and audio reproduction apparatus wherein said power supply includes a general battery or rechargeable battery (column 2, lines 50-51 with column 7, lines 10-14).

Regarding **claim 8**, Beckert discloses a portable storage and audio reproduction apparatus wherein said flash memory (figure 3, element 106) is a random access memory (figure 5, element 302 and 304), which is connectable to a smart card (figure 3, element 42).

Regarding **claim 9**, Beckert discloses an apparatus further comprising a personal computer for downloading and storing audio data and various information data through the Internet or PC communication according to a program contained therein (downloads; column 4, line 26 – column 5, line 55).

Regarding **claim 10**, Beckert discloses an apparatus further comprising a second interface connected between said personal computer (computer) and central processing unit (processor) for data interfacing therebetween (column 8, lines 35-61 and column 11, lines 50-65).

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Beckert in view of Maeda, as applied to claim 1, and in further view of Terui et al. (U.S. Patent No. 5,903,871), hereinafter referenced as Terui and in further view of Bertino et al. (U.S. Patent No. 5,481,645), hereinafter referenced as Bertino.

Regarding **claim 2**, Beckert in view of Maeda disclose a portable data storage and audio reproduction apparatus as wherein said key input unit further includes:

a recording key (device that records) for storing audio data in said flash memory (flash memory; column 7, lines 22-30);

a play key (playback) for reproducing said audio data stored in said flash memory (column 8, lines 13-15 with column 10, lines 40-42);

a volume key (figure 4, element 208 and 210) for raising or lowering the level of output audio from said reproduction apparatus (column 6, lines 20-25);

an equalizer on/off key (control the sound) for turning on/off the operation of said equalizer (column 6, lines 20-25 and column 1, lines 9-12); and

a FM radio ON key (figure 3, element 84) for turning on the operation of said FM radio receiver (column 6, lines 59-63), but lacks a stop key, a start/end detection key, a menu key and a repeat key.

Terui discloses a portable data storage/audio reproduction apparatus wherein said key input unit includes:

a stop key (stop; figure 6, element 45) for stopping the operation of said reproduction apparatus (column 5, line 20 and column 13, lines 60-61),

a start/end detection key (ending and starting position) for detecting start and end points of said audio data stored in said flash memory (column 12, line 65 – column 13, line 3); and

a menu key (menu; figure 6, element 45) for displaying all the functions of said reproduction apparatus (column 5, lines 22-23 and column 13, lines 64-65), to have various operation buttons, but does not specifically disclose a repeat key.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to press the fast forward (FF) to move the marker quickly to the last location of the selected portion and the rewind (RW) key to quickly move the marker to the first location of the memory partition, as taught by Bertino (column 6, lines 23-28), which assists with the repeat process for repeating the reproduction desired data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beckert in view of Maeda's apparatus to include a stop, start/end detection, menu and repeat key, as taught by Terui in combination with Bertino, to have various types of operation buttons which assists with the reproduction process (column 13, lines 59-67).

6. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Beckert in view of Maeda, as applied to claim 1 and in further view of Park (U.S. Patent No. 5,142,281).

Regarding **claim 3**, Beckert in view of Maeda disclose a portable data storage and audio reproduction

apparatus wherein said radio frequency transmitter includes:

a primary amplifer (figure 3,element 212) for primarily amplifying the audio signal from said transmission controller to a first predetermined level (column 6, lines 30-31),

a tuner (figure 5, element 320) for tuning an output signal from said secondary amplifier to a desired frequency channel (column 7, lines 60-66); and

a gain controller (figure 5, element 332) for controlling a transmission gain of said transmitting antenna (figure 5, element 322), but lacks a frequency setting/oscillating circuit, a transmission controller, an oscillator and a secondary amplifier.

Park discloses a portable data storage/audio reproduction apparatus wherein said radio frequency transmitter includes:

a frequency setting/oscillating circuit (frequency generator; figure 2, element 31) for setting desired frequency level and generating a signal (generates the signal) oscillating at the set frequency level (column 2, lines 53-59 with column 3, lines 38-40),

a transmission controller (frequency divider; figure 2, element 28) for outputting the coded analog audio signal from said audio codec synchronously with the oscillating signal from said frequency/setting oscillating circuit (column 3, lines 43-48);

an oscillator (figure 2, element 36) for oscillating an output signal from said primary amplifier (column 3, lines 30-31); and

a secondary amplifier (figure 2, element 58) for secondarily amplifying an output signal from said oscillator to a second predetermined level (column 3, lines 16-31), for converting the output into a signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beckert in view of Maeda's apparatus such that it includes a frequency setting/oscillating circuit, a transmission controller, an oscillator, and a secondary amplifier, in order to transmit a signal to a control center in response to a reference signal from the control center (column 1, lines 21-25)

7. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Beckert in view of Maeda and in further view of Wells et al. (U.S. Patent No. 5,870,683), hereinafter referenced as Wells.

Regarding **claim 7**, Beckert in view of Maeda disclose a portable data storage and audio reproduction apparatus, but lacks wherein said liquid crystal display (LCD) is of a 128x32-dot graphic type, said display including a plurality of icons for visually displaying data.

Wells discloses a portable data storage/audio reproduction apparatus wherein said liquid crystal display is of a dot graphic type (dots to be displayed; column 5, lines 22-25), said display including a plurality of icons for visually displaying a charged state of said battery (charge state of battery; column 8, lines 51-54), an operated state of said reproduction apparatus (when battery connected, show "charging"; column 1, lines 38-41 with lines 20-22), a key input state of said key input unit (send key; column 3, lines 30-31), a name of an output tune (name information) and a list of audio data stored in said flash memory (column 9, lines 33-46 with column 5, lines 41-45), for displaying

graphical information, but lacks that the display is specifically a 158x32-dot graphic type.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the display is a 158x32-dot graphic type, such that the display can be varied in intensity based on what it suitable.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beckert in view of Maeda's invention such that the LCD dot graphic type displays a plurality of icons, to provide a graphical functional indicator on the display, to indicate a current operating condition, as taught by Wells (column 1, lines 20-22).

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571-272-7619. The examiner can normally be reached on Monday, Tuesday and Thursday 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRJ
May 22, 2007

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